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ABSTRACT

Focusing on contributions of educational resources to the growth of nonfarm enterprises in small towns and sparsely populated areas of the Southeast, this paper discusses four major problems which are at least partly amenable to educational solutions and examines various educational means for overcoming those problems. Research and development literature concerning industrialization in the rural Southeast discloses the following problems: tendency of industries not to locate in areas containing numerous poor: shortage of rural residents with managerial expertise: relatively slow growth of high-wage, high-technology industries: and unpreparedness of rural people for small business opportunities. Although some difficulties have been discovered in applying them, the following educational means serve to foster rural industrialization by linking education and economic development in the public/private sectors: upgrading the skills of low-income rural workers through improved general and vocational education programs, plus employment training for youth and adults: preparing management personnel through company and school sponsored programs: using Extension training for management leadership development: aiding the growth of technology-dependent industries by emphasizing technological and scientific education: and using vocational, Extension, and community enterprise programs to teach needed business skills. (CM)

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Industrialization in the Rural Southeast: The Role of Education

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Nationally during the last two decades, more new industrial jobs have been created in rural areas than in metropolitan centers. This reverses the previous historical trend of concentration of industrial expansion in or near cities and has been concomitant with the demographic turnaround whereby rural America has experienced faster population growth than urban places (33). The Southeast has gained a large share of the increase in rural industrial development by adding over fifty percent of all the nation's rural manufacturing jobs produced during 1962-1978. In the same period, almost forty percent of the private-sector, service-performing jobs (in trade, finance, professional and personal services, etc.) added to rural labor markets has been recorded in the Southeast (27). These figures reflect the high rate of broad-based, industrial growth which has occurred throughout the Southeast as a whole, but particularly in its rural areas (65).

"Industrialization" (or "industrial development") sometimes is used to mean the establishment of new or expanded manufacturing plants to the extent that such industry becomes a major element in local employment structures (33). However, because job development in the rural Southeast has encompassed such a wide array of manufacturing and nonmanufacturing sources, the concept of "industrialization" applied here will use its more comprehensive sense to include expansion of all nonfarm, profit-making enterprises, i.e., all nonfarm business. This allows a more accurate portrayal of business and employment patterns in the rural Southeast where so much of recent growth has occurred in service-performing industries and where similar growth is projected for the future, despite the continuing importance of manufacturing (16, 27, 76).
To clarify another conceptual matter, "rural Southeast" will refer to small

towns and sparsely populated areas in the region extending from Arkansas and Louisiana eastward to the Atlantic, and from Kentucky and Virginia southward to the Gulf.

Background of Rural Industrialization

Several factors have led to increased rural industrial development in the Southeast and other regions. One concerns the efforts by the federal government through various legislative acts and programs to promote rural economic development. Federal policy has been designed to achieve such goals as balancing population distribution and economic growth, reducing unemployment, obtaining greater income and less poverty for rural people, upgrading the availability and quality of basic services, absorbing workers released from the farm sector, and reducing massive rural migration to cities (5, 70, 80, 82). Another factor is the determined effort by some states and local communities to bring industry to rural areas. Using a variety of techniques, ranging from special industrial recruitment agencies, to inducements like tax exemptions or other subsidies, state and local governments have done much to encourage the industrial activity that many citizens and political leaders see as the chief means to overcome economic problems (5, 36, 70). But the private sector has perhaps supplied much of its own impetus for rural industrial development by perceiving special locational advantages in rural places. There, labor costs are usually less, land is cheaper, raw materials and water are more readily available, while improved transportation/communication networks now give access to large markets and supplier sources (5, 15, 30, 80).

The literature on rural industrialization contains some fairly extensive analyses of the advantages, as well as disadvantages, which result from it. There is little doubt that, in the Southeast as elsewhere, industrial growth

generally brings greater economic opportunities to local communities. The economy becomes more diversified, there are more options for rural workers as the labor market expands, incomes increase, and many multiplier effects occur as payrolls diffuse through the local economy to help encourage capital accumulation. Indeed, advantages are so numerous that a majority of rural residents who have experienced industrial development want more (5, 68, 70). Yet, there are clearly negative effects which cannot be ignored. As incomes increase, so do prices and taxes as the general cost of living goes up. Where industrialization is accompanied by large population growth, existing facilities and service delivery systems are strained beyond effective capacity. Economic benefits may "leak" to other communities because workers spend their earnings elsewhere. Most damaging is the related fact that new job opportunities often do not go to the local underemployed but to commuters or in-migrants who have more education and better skills. Thus, community expectations about employment benefits are sometimes unrealistically high (5, 47, 56, 68, 69).

The latter point underscores the importance of a well-trained, local labor supply in the industrialization process. Communities that can offer such a work force will probably enjoy a locational advantage over areas which cannot do so. While it is true that many industries locating in the Southeast have needed only low- or medium-skilled workers, others have needed more highly skilled employees to accomplish production and service goals. They have also required a talented, educated managerial staff to guide operations. When skilled employees and managers are not available locally, industries may have to bring in personnel from the outside, or perhaps even be forced to relocate their operations. In both cases, the potentially

significant economic and employment advantages to a local community will not be realized (30, 34, 53). The critical contributions of a trained labor force to industrialization in the rural Southeast will be a major theme in the following sections.

Four Problems Associated with Industrialization in the Rural Southeast

Review of the research and development literature on rural Southeastern industrial development reveals four key problems which are at least partly amenable to educational solutions through policies designed to develop a skilled labor force. There is no intent here to argue that education alone can solve all problems associated with industrialization, only that it has an important role to play in overcoming the special difficulties to be examined. Policymakers in both the public and private sectors should consider this role when formulating measures to promote rural industrialization or deal with its consequences. By implication, educational solutions could be determined relevant to other specific issues not considered here.

#1. Tendency of industries to locate elsewhere than in areas with large numbers of poor. Despite considerable economic expansion in recent years, the rural Southeast is still the greatest poverty zone in the country. More persistently low-income counties with chronically deficient human resource development can be found there than any other region of the country (13, 15, 16, 26). Industrial growth within the rural Southeast has tended to avoid poor counties, most of which have heavy concentrations of underemployed whites and blacks. But even when enterprises have located in the areas, they have usually hired local people for low-paying unskilled or semi-skilled jobs, while better paying positions have gone to in-migrants (38, 67, 69, 71). Although other factors like racial/ethnic discrimination may have a bearing, undoubtedly the lower

quality of the labor force greatly affects the situation. This labor force is composed mainly of the poor who have received relatively little schooling, formal skill training, or even on-the-job training in many cases (66, 68, 79). The implication is that poor rural peple living in areas with the greatest need for industrialization are being bypassed because they do not have enough skills or education (62, 67).

#2. Shortage of rural residents with managerial expertise. The transition from an agricultural to an industrial based economy in many places in the rural Southeast means that workers coming into the new plants and business firms need--beyond training for the new work functions they must perform--effective guidance by supervisors. Effective management is always important, but it is especially critical for encouraging the highest productivity from workers who come from economically disadvantaged backgrounds (23). However, there is evidence of a shortage of local managers with expertise. Many rural firms are only marginally successful because of deficient management; they have high personnel turnover rates and inefficient production because of poor supervisory practices. Companies often find it necessary to import their managers from metropolitan areas where there are more and better trained personnel with the managerial qualities necessary to plan objectives, organize resources, and motivate workers to do the job. Not enough rural residents have been trained in these special skills to enable them to move from employee to management status (7, 12).

#3. Slow growth of high-wage, high-technology industries. There is a fairly high consensus of opinion that industrial growth in the rural Southeast has been too heavily concentrated in labor intensive, low-wage enterprises with insufficient emphasis on the development of higher wage, technology-

oriented industries now constituting the fastest growing segment of the U. S. economy (25, 39, 46, 61, 67, 68). Although some recent improvement has occurred in the ratio of high- to low-wage industries in the rural Southeast, the large pool of underemployed and partly skilled labor continues to attract labor-intensive businesses offering relatively low wages and the least stable operations. They are the industries most likely to close or relocate, while providing wages which have not brought the earnings of rural workers up to national averages (25, 39, 68). Projections for future growth in the Southeast (both rural and urban areas) predict the greatest job expansion in industries employing scientists, engineers, technicians, and other highly skilled workers with the technological background to manage complex equipment and processes. That may not happen, however, if the labor force in the Southeast lacks the educational foundations and skills training to meet requirements of the new industries (57, 76).

#4. Unpreparedness of rural people for small business opportunities. Some observers have argued that analysis of industrialization in the rural Southeast has placed too much stress on large-scale industry. They see the need for increased opportunity for self-employment opportunities in small businesses to satisfy unmet local demands for services or products. Growth of successful small concerns often attracts imitators along with others dependent on goods/services generated by the new businesses (28, 50, 63). Unfortunately, rural residents sometimes do not recognize opportunities in entrepreneurship or, when they do, are not always sure how to pursue them. Technical advice and practical guidance on how to overcome the initial obstacles to establishing a business would be very helpful. So would training in the management and technical operations needed to maintain a small

business, including forms of marketing, pricing policies, hiring practices, etc. (6, 28, 75). However, entrepreneurship as a career opportunity has been generally ignored by the educational system, particularly in rural areas. Schools and training centers could do more than just prepare students for work in large, existing industries but also teach them entrepreneurial skills as well, which would be particularly valuable for economically disadvantaged residents in the rural Southeast much in need of self-help and community leadership initiatives (50, 58).

Upgrading the Education and Training of the Rural Poor

General Education. A major cause of the failure of industries to locate where the rural poor are heavily concentrated is the generally lower quality of the labor force. General education has a role to play in improving labor quality by increasing the basic skills and educational attainment of people already in the work force or others who will enter it. But poor people in the rural Southeast often live in places which cannot provide the variety of educational services found elsewhere because of inadequate facilities and few financial resources. Underinvestment in educational development is reflected not only in low attainment but in relatively lower achievement and the gradual decrease of motivation (16, 32, 79). The rural poor could use a whole range of better educational services to help improve their condition: expanded curricula, special teacher preparation, better library facilities, greater access to counseling, new postsecondary offerings, more support staff, more extensive preprimary and adult education programs, and so on. Government is the first logical choice, of course, to provide the services through more equitable funding arrangements or new delivery mechanisms. The private sector, however, could do more to insure that schools have adequate

resources by supplying some of the needed services through their own community development activities (8, 19, 41, 67).

Programs to upgrade education of the poor can be effective only if combined with efforts to spur economic growth. Simply increasing the educational levels of the rural poor without providing jobs in which more schooling can be utilized will probably result in further migration of well-educated rural people to urban areas where there is greater demand for their abilities. Education and rural industrial development are related in another way. Many jobs now available to the poor in Southeastern rural labor markets do not require high levels of schooling. There is little reason to get advanced formal education to enter well-paying, higher status occupations when so few exist. But not having more schooling virtually guarantees ineligibility for whatever better opportunities do occur (16, 48, 79). On the other hand, development may not proceed beyond elemental stages without a capably educated labor force.

Vocational Education. For the same reasons, vocational education programs should be closely associated with economic and industrial development. Through vocational education, students learn about work along with how to perform work roles, two aspects crucially important for the Southeastern rural poor who need to understand occupational opportunities first and then have a wide range of career training alternatives. Yet, there is little point to their education if they are trained for jobs that do not exist or develop unmarketable skills. This is precisely why it is necessary to coordinate activities to achieve rural industrial expansion (which produces more jobs) with vocational programs to train workers (preparing them for the new job openings). States in the Southeast have embodied such a philosophy

in the extensive systems of community colleges and area vocational/technical centers, many serving rural citizens, that have been created in recent decades. Other agencies, like the Appalachian Regional Commission, continue to aid the institution-building effort to meet the vocational education needs of industry (4, 53, 74).

Despite the fact that vocational training institutions are now located in many rural areas where they were not present before, access is still a problem for poor and isolated residents who cannot afford travel costs even if transportation is available (19, 64). Mobile facilities and satellite training centers set up in local communities have been somewhat effective in overcoming the access problem and could be utilized more. But another method would involve supplementing service delivery systems like area vocational centers and mobile facilities with local community training resources. For example, a contract procedure can be set up linking students interested in learning a particular skill with a person possessing that skill within the community. A negotiated contract will identify costs of training for a businessman/instructor to get students to a specified proficiency level. Contract vocational education uses untapped skills found locally, reduces the need for more institutional equipment and personnel, and makes access to training less difficult (28).

Employment Training. While better general educational services and vocational instruction are certainly important, employment training programs that raise the job skill levels of the rural poor may be the most direct method for achieving employment growth (79). Training can be job specific, or for generalized higher skills needed for better jobs or in basic education areas like math skills. Such programs could help ensure that disadvantaged residents are not bypassed by the employment benefits generated through rural

industrialization. By no means should employment training be confined to public direction alone; private firms and unions can be encouraged to participate in or independently conduct training assistance projects, especially where there are large supplies of unskilled workers (1, 70). Unfortunately, several obstacles hinder the full realization of objectives. Relatively few rural governments or private organizations have enough expertise in planning and delivering employment training services, a notable problem in rural Southeastern counties with large minority populations (21, 68).

Even when a rural employment training operation is established it often is not effective in reaching low-income, underemployed persons because they lack knowledge about both the existence of the local program and the procedures required to gain admission to it (22, 66). Poor access to distant training sites blocks some prospective users because they cannot afford the excessive travel costs. Financial/technical assistance as well as "outreach" information activities to recruit, tutor, and place rural workers as jobs emerge would be beneficial. Employment training can be made a more effective instrument for enhancing the capabilities of rural poor people and attract industry impressed by their work readiness (68, 72).

Industry Services Programs. Most states in the Southeast have combined features of vocational education and employment training in special industry services or "start-up" programs, usually coordinated by a state agency. They are primarily designed so new and expanding businesses can have a skilled labor force ready to go when production begins, thus reducing start-up time. The programs offer a way for public agencies to participate in recruiting and training workers for private industry who have needs beyond those met by ordinary employment training or vocational education curricula. Industry services programs are short-term, focus on small groups of trainees instructed

in job-specific tasks, employ vocational education or industry personnel as instructors, and use schools or company plants as training sites. They have become a major industrial recruiting tool by furnishing businesses with a tailor-made labor force of qualified workers, and they are popular with community residents who can acquire the skills necessary to enter jobs available almost immediately (31, 73).

These programs seem quite ideal for training poor, underemployed workers and have been partly promoted as effective means for bringing such workers into the industrialization process. But analyses of industry services programs in the Southeast have shown that they are more successful in attracting industries to counties already having favorable employment conditions, high educational levels, and industrial development. Counties lacking similar characteristics, in other words areas where the poor are concentrated, benefit less from "start-up" training which appears to have only a marginal impact on upgrading work forces and affecting industry location in places needing help the most. A stronger attempt therefore must be made to focus the industry services approach on training disadvantaged workers and inducing business to locate where such workers can contribute valuable learned skills (77).

Preparing Industrial Managers

Vocational Education. The chief goals of any management training program are to improve productivity and reduce turnover of personnel resulting from poor management. An additional goal, important for consideration here, is to utilize the experience of existing employees by helping them move into supervisory/managerial roles. When promotion from within occurs, higher status positions often go to local residents rather than outsiders. Promoting employees from within is not an effective policy, however, when educational

deficiencies do not allow them to do their work properly. In some traditional industries in the rural Southeast, persons may be advanced to supervisory positions with relatively little formal education or special training. Pressures created by advancement can be impossible to handle without instruction in basic communications skills and human relations (7, 81). There are several ways to equip existing or prospective managers with the necessary skills. Companies may undertake their own training programs, a method to be examined shortly, but vocational education is a viable alternative not always given the attention it deserves.

Some of the vocational/technical centers in the Southeast have instituted on-campus programs to upgrade industrial supervisory personnel through courses in principles of management, communications, and labor relations. The courses may be general in nature or "custom designed" to meet the unique needs of particular industries trying to improve their management resources. Similar instruction is carried out by vocational education personnel at the work site according to company requirements. In either case, the company bears most of the expense by paying tuition and perhaps even covering instructional costs. Vocational education institutions strengthen their role as a contributor to industrial development while expanding their services and enrollments; in return, business firms receive the benefits of a more highly skilled managerial staff (20, 81). Greater application of the techniques of linking vocational education and industrial management ought to be explored.

Extension. An even more neglected source of opportunities for the managerial training of rural people is the Extension Service. The Extension system is a cooperative arrangement embracing federal, state, and county agencies in the attempt to extend educational programs from land-grant universities to local communities. Originally, it placed emphasis on teaching farm people useful

skills in agriculture and home economics but now offers more subjects to a wider constituency. Programs are conducted locally by county Extension agents who receive administrative and research support from the state land-grant university. Extension personnel literally have decades of experience in helping to develop managerial competencies for individuals pursuing farming and other agriculturally oriented enterprises. In recent years, their expertise has been made available to nonagricultural industries where management skills for the effective use of labor are emphasized (7).

Extension staff members in the rural Southeast and elsewhere have conducted workshops that enable managers to guide employees more productively in setting work objectives, assigning responsibility, and rewarding and disciplining performance. Other sessions have been held to train managers to become better trainers themselves so they may undertake OJT activities for upgrading employee skills (7). The "how-to-train" employer/manager development workshops thus become indirect means to serving better skills training for employees, a notable contribution when companies have large numbers of disadvantaged workers and must instruct them on-site using regular supervisory personnel. The Extension record in directly training disadvantaged and minority rural residents has been varied, though, and leaves room for new initiatives (18). Since most Extension management preparation programs focus on small businesses, further discussion will be reserved for the section which treats that subject.

Company Training. As noted above, private companies do pay for the training of their personnel at various outside facilities like vocational institutes and send executives to special courses at universities (11, 35). But often they provide their own in-house programs in which company human

development specialists conduct teaching activities in management technology and other fields. So extensive have company training programs become that they are now a major part of the nation's educational effort. Millions of people participate annually in some form of campany training to increase their skills, qualify for better positions, learn technical operations, or supplement their schooling. In design and method, company training programs have furnished innovative examples for the formal educational system, especially in such areas as the adoption of instructional technologies and the blending of classroom study with problem-solving experience (35).

Although there are no studies known to this author on the use of company training to enhance managerial proficiency in rural Southeastern industries, the practice probably is as widespread there as elsewhere in the country. The nature of modern industry everywhere requires training adaptations to almost continuous changes in the skill and knowledge needs of business operations. For supervisory/management duties to be performed adequately, managers must have access to an accumulating body of knowledge ranging from operations research to the behavioral sciences. They need practical information about government regulations and other noneconomic influences affecting the work environment. Guidance is also essential in human relations matters like identifying "high potential" workers or providing psychological "motivators" to induce employee satisfaction and productivity (23, 35). Company training, as an instrument for preparing rural people for managerial positions, has almost limitless possibilities.

Aiding Growth of High Technology Industry

Company Training. Projections of future industrial growth in the Southeast (both urban and rural areas) indicate that the greatest expansion will take place

in enterprises highly oriented toward technology, e. g., instruments, aerospace, telecommunications, electronics. The forecast for even traditional industries like textiles is one of increasing technological dependency as operations grow more and more automated (9, 20, 29, 76, 81). In the high technology production processes these concerns must employ, the knowledge required to achieve producion becomes increasingly complex. Their products are less the result of investment in raw materials and unskilled labor than investment in scientific/technical knowledge. As a matter of fact, knowledge is so essential that a whole new class of service workers is entailed, people who are skilled in generating and transmitting the information on which high technology industries depend (9). The growth projections just mentioned will be illusory, however, unless large numbers of both blue-collar and white-collar workers possessing well-developed scientific/technical expertise are available.

Companies dependent on high technology can do much themselves to ensure an appropriate labor supply by training their own workers. As new production processes make some skills obsolete, particularly ones involving simple and repetitive tasks, new skills can be taught to fill more complex technical roles. Industries gain by turning a human resource investment into better work performance and productivity, ultimately improving their competitive position. Workers increase their knowledge base for expanded skill development while qualifying for more rewarding positions. Persons unable to adapt to a changed work environment may find their services in little demand as many less-skilled jobs are eliminated. Management and labor both have great incentives to promote company training programs, and both are already doing so in certain high technology industries which train their own computer specialists, engineers, equipment maintenance workers, and others, because of

rapid changes demanding the constant refocusing of worker skills (14, 29, 35, 57).

Vocational Education. Companies cannot be expected to carry the entire burden of affording technological preparation for their employees. General and vocational education resources could also be used for this purpose. Vocational institutions have an especially important role in training more highly skilled workers in the new technology. There is evidence that vocational education institutions in the rural Southeast are already well aware of their responsibilities and are acting to establish programs which will help supply a labor force capable of supporting the growth of high technology industries. Rural vocational schools are now teaching technical courses formerly unknown in rural curricula. Secondary and postsecondary institutions are initiating training programs in energy development such as coal mining technologies, oil production/processing, and solar energy usage (2, 40, 55, 81). Further activities within the vocational education system could greatly assist future rural industrialization in the Southeast.

But fulfillment of that objective is hampered by a difficult problem faced by vocational education administrators. How do they maintain up-to-date equipment in the classroom for instructional purposes when the equipment is so expensive and the technology it represents changes so quickly? Classroom based technological training becomes less applicable in a realistic manner under those conditions (20). One alternative solution is to encourage industries to donate equipment to vocational schools so they can set up work-like simulations on campus; some companies already have done so with good results. Or the schools could maintain programs in the basics of technical instruction while leaving actual training to be handled entirely by companies on-site. A third alternative combines features of the first two in that vocational schools provide basic

instruction and some advanced teaching on classroom equipment, but the bulk of the latter occurs at industry locations through programs coordinated by the schools. Vocational education faculty and company experts could both participate in cooperative training programs (20, 81). Educators undoubtedly will have to consult with industrial managers to determine which option is most appropriate for their area.

General Education. The intellectual foundations of modern technology lie in science and mathematics. Without thorough preparation in the two disciplines, rural Americans will not be ready for advanced technological training even if public and private organizations make more opportunities available. Rural schools have experienced historic deficiencies in science education because of inadequate or absent laboratory facilities, and in both science and math instruction because not enough specially skilled teachers are present. Nowhere are the shortcomings more manifest than in the rural Southeast where national assessment tests have shown students scoring lower than pupils from other regions on every aspect of science and math: knowledge, skills, understanding, and application (43, 44). Moreover, scores have been declining in the Southeast, as has been the case in every region, reflecting a grave national trend with implications for America's future technological competitiveness in world markets. Comparative data indicate that American students now are weaker in math and the physical sciences than their counterparts in other industrial nations where more years of study are required in those subjects (42, 52).

There is thus a national stake in improving the math and science skills of all the groups, including rural Southeasterners, who have most serious needs. The public sector can contribute through increased funding, more in-service education of teachers, emphasis on math and science instruction

during high school years (one-half of all students take no science after the 10th grade), and special programs for the disadvantaged (10). The private sector could do much to supplement efforts by offering company personnel as instructors in classrooms, bringing in students for on-site instruction by industrial scientists and engineers, conducting summer training programs for teachers, and giving laboratory equipment to schools (10, 78). Perhaps it is also time to consider technical competence in science and math as an indispensable part of basic education.

Educating for Entrepreneurship

Extension. The Extension Service has long devoted attention to management and production methods in farm enterprises. It is now doing the same for small, nonfarm businesses operated by rural people in the Southeast and other sections of the country. Management is the key to a successful small business operation and Extension offers management education workshops on critical problems facing a small business owner. The mechanics of starting a new enterprise may seem obvious to everyone except those who have tried to deal with the financial, legal, and social problems involved in doing so. Extension furnishes a nearby information source where rural residents can go to at least learn fundamental techniques of starting and operating a small business while obtaining awareness of other, more advanced or specialized knowledge sources. Extension entrepreneurial development programs can serve a very useful function in encouraging only well-informed people who are fully aware of risks and requirements to pursue the goal of a small business venture. Instruction alone in finding potential lending sources, e. g., banks or government agencies, would be extremely helpful. If that is added to training in objectives planning, time management, performance appraisal, communications, and financial manage-

ment--then one has a quite viable program for assisting the prospective business owner. Even existing owners can profit from such Extension entrepreneurial activities (37, 60, 75).

Despite its potential for helping the rural entrepreneur, the Extension small business development program is still relatively limited in scope. The service's more traditional functions continue to have priority and receive the largest resources. There do not seem to be any specific analyses of the program or any systematic evaluations, perhaps because of its small nature. However, evaluation of other Extension programs shows some problems that probably apply here as well. Few linkages exist between Extension and other training agencies to strengthen its complementary role. Extension personnel do not have enough in-service training to familiarize them with business and employment training needs. And, as pointed out earlier, there is insufficient participation by minority groups (18).

Vocational Education. Vocational education has traditionally prepared youth and adults for jobs which would make them workers under employers who direct large-scale business concerns. It has not done a great deal to train students for business ownership, with the exception of some programs in vocational agriculture and distributive education. While other courses have focused on the American economic system and business management, they have been mainly intended to prepare students to be well-informed citizen/employees, not potential entrepreneurs (6, 28, 50, 58, 63). There is no reason why vocational education students should not have the opportunity to enter a carefully planned instructional program to help give them the competencies required to be successful in business ownership. Entrepreneurial development programs can combine resources (many of which already exist) such as courses, texts, materials, business theories, and teaching expertise with hands-on

business experience for trainees. Although the personal characteristics of achievement motivation and creativity possessed by prosperous businessowners cannot be taught directly, they are analyzable to encourage student self-direction. These programs could be productively instituted at secondary as well as postsecondary levels (6, 58).

For rural people in the Southeast where the range of small business models is more limited than in cities, exposure to diverse business environments is critical. They must be made aware of entrepreneurial skills in the classroom, of course, but they also should have opportunities to observe and practice the skills through contact with a variety of self-employed people. Effective student projects involve the direct help of businessowners who can show graphically how decision making, risk taking, and using information play central roles in business operation (59). Not only students but vocational education instructors may profit by direct work experience in the private sector. The new skills gained and processes learned assure that practical know-how will be passed on to students to prepare them realistically for the school-to-work transition and give them a better choice regarding the types of business opportunities open (54). Teachers and students can also learn from business personnel who come to the schools and teach skills there, in effect becoming adjunct faculty resources to vocational institutions (51, 78).

Training by Community Enterprises. One cannot consider only formal education channels or outside agencies as sources for entrepreneurial development. Rural communities in the Southeast have already done much themselves to organize locally-owned small businesses and educate their residents in the skills necessary to operate and expand the enterprises. For example,

community development corporations have been founded in several rural areas. They are a useful instrument for industrial/business development in places where there are large numbers of poor and where major industries seldom locate because of the lower quality labor force and thin profit margins. Community development corporations set up profit-making enterprises which train their own employees on-the-job and even initiate work-study programs to instruct the previously inexperienced in management skills. They have the potential to become a catalyst for further economic development by demonstrating that a skilled, employable labor force exists for greater industrial expansion (3, 63, 79).

Other community based ventures such as student-run businesses, church-related enterprises, and work/education councils have all promoted training efforts of some kind to increase knowledge about entrepreneurship; women and youth are two traditionally neglected groups sometimes targeted for special assistance (17, 24, 49). Cooperatives, having had a long history in agriculture but now branching into other business fields, also carry out much internal training by teaching principles and techniques of marketing along with the other skills needed to organize cooperative enterprises. In so doing, they give experience in entrepreneurship to their members which, in turn, creates a positive environment for more local business intiatives. When support for community based ventures comes from government, it builds the public and private sector linkages so valuable in fostering local self-initiative to develop entrepreneurial talent (15, 45). Training by community organizations, an avenue relatively new for policy exploration, is still another way that public and private sector contributions to strengthen educational services can help solve some key problems in rural industrialization.

Summary

In this paper, the contributions of educational resources to the growth of nonfarm enterprises in small towns and sparsely populated areas of the Southeast region have been explored. Review of the research and development literature concerning industrialization in the rural Southeast has disclosed four major problems which are at least partly amenable to educational solutions. Those problems are: (1) tendency of industries to locate elsewhere than in areas containing large numbers of poor; (2) shortage of rural residents with managerial expertise; (3) relatively slow growth of high-wage, high-technology industries; and (4) unpreparedness of rural people for small business opportunities.

Various educational means for overcoming the four problems have been examined, including: upgrading the skills of low-income rural workers through improved general and vocational education programs, plus employment training for youth and adults; preparing management personnel through company and school sponsored programs; using Extension training for management leadership development; aiding the growth of technology-dependent industries by emphasizing technological and scientific education; and use of vocational, Extension, and community enterprise programs to teach business skills needed for entrepreneurship. Although some difficulties have been discovered in applying these means, they clearly serve to foster rural industrialization by linking education and economic development in the public/private sectors. Education's continued enrichment could be highly significant for the future of the rural Southeast.

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